

CHAPTER 16 TRAFFIC SYSTEMS MANAGEMENT (TSM)

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CHAPTER 16 TRAFFIC SYSTEMS MANAGEMENT (TSM)

16.1 INTRODUCTION

The Traffic Systems Management Program (TSM) is used to increase the capacity of State and local transportation systems by increasing the number of peak-hour person-trips by improving existing facilities without major construction. The TSM Program is an annual program. Candidate projects are selected and programmed by Caltrans and then presented to the California Transportation Commission (CTC) on December 1. Critical dates for the TSM Program are shown in Exhibit 16-A.

16.2 TSM RELATED LEGISLATION

TSM is one of the transportation programs created by Senate Bill (SB) 300, Chapter 105 and AB 471 Chapter 106 of the Statutes of 1989. It is included in the State Transportation Plan and is authorized for ten years from July 1, 1990 to June 30, 2000.

Senate Bill 1435, Chapter 1177, Statutes of 1992, implemented the 1991 Federal Intermodal Surface Transportation and Efficiency Act (ISTEA) by amending the California Streets and Highway Code (S&HC). Section 182.4 of the S&HC mandates that the first priority for State TSM funds is to provide the matching funds for Federally funded Congestion Mitigation and Air Quality (CMAQ) and qualifying Regional Surface Transportation Program (RSTP) projects (refer to Chapter 17 TSM Match Program).

Section 65089 of the Government Code requires that every county with an urbanized area develop a Congestion Management Program (CMP) and update it every two years. The local CMP, approved by the County Transportation Commission or Board of Supervisors, must include all cities within the county as well as the county itself. All TSM projects must be in an urbanized area and included in the local CMP to ensure conformance with local transportation plans and priorities for implementation.

16.3 FUNDING OF THE TSM PROGRAM

The original Legislative intent was to fund the TSM Program with State funds for a period of ten years at a level of approximately \$100 million per year. As mentioned above, the first priority for TSM funds is to provide the matching funds for the CMAQ and eligible RSTP projects. All remaining TSM funds are used to finance projects in the annual TSM Plan.

From February of 1994 until August of 1996 a shortage of State funds in the State Highway Account (SHA), resulted in TSM projects, not yet voted by the CTC, to be funded with a combination of State and Federal funds. Now, all TSM projects that have not gone to Construction will be funded with State only funds.

TSM projects utilizing State-only funds must comply with the “Financial Guidelines for Local Agency Reimbursement”. These guidelines describe the reimbursement process for State only funded, not Federally funded, projects. These guidelines are included in Appendix A of this manual.

The “Financial Guidelines for Local Agency Reimbursement” limit reimbursed capital support costs to twenty percent and fifteen percent of the construction costs for preliminary engineering and construction engineering, respectively, on all TSM projects.

Note: The STIP Fund Estimate no longer automatically sets aside funds for capital support (change from what is stated on page 13 of the *Financial Guidelines for Local Agency Reimbursement*). Local agencies that want to be reimbursed for support costs need to have support costs programmed. See “Procedures” section.

16.4 PROGRAMMING PROCEDURES

STATE PROGRAMMING

The “TSM Program Guidelines” were approved by the CTC in October, 1989, and amended March 31, 1993, to reflect changes introduced by SB 1435, and amended June 7, 1995 to require that all TSM projects (State and local) be consistent with the county’s Congestion Management Plan (CMP). These guidelines describe the intent, purpose, eligibility requirements, programming procedures and project evaluation criteria for the TSM program. These guidelines are included as Exhibit 16-B.

Projects become candidates for the TSM program when State, regional or local agencies submit a “Project Information Report” (PIR) to both the Caltrans District Director and the Regional Transportation Planning Agency (RTPA). Details of the PIR are described in the TSM “Program Guidelines” (see Appendix A to Exhibit 16-B). The PIRs are due to the Caltrans District Director by September 1, preceding the fiscal year of the TSM Plan. TSM project candidates are prioritized and incorporated into an annual TSM Plan by Caltrans, in accordance with the “TSM Program Guidelines”.

Inclusion of a project in the annual TSM Plan is not a guarantee that funds will be available. The level of funds for the TSM Program are not known until the State Budget is approved by the State Legislature and Governor. The Department’s position is to fund all projects above a priority cutoff line consistent with available funding.

16.5 PROJECT DEVELOPMENT CONSIDERATIONS

The annual TSM plan includes both State and locally sponsored projects. Project development and contract administration is generally completed by the local agency if the project is off the State highway system and by Caltrans if the project is on the State highway system.

For projects off the State highway, local agencies are typically assisted by the Office of Local Programs (OLP) in Sacramento and by the appropriate Caltrans District Local Assistance Engineer (DLAE).

For projects on the State highway system sponsored and administered by a local agency, all work must be designed, right of way acquired, and construction undertaken in accordance with State standards, policies and procedures. In addition, the local agency must perform all work under an encroachment permit from Caltrans. Depending on the nature of the project and costs involved, a cooperative agreement between the local agency and State may also be required. The formats and procedures for preparing cooperative agreements are found in the Caltrans Cooperative Agreement Manual.

Local agencies may begin reimbursable preliminary engineering work any time after December 1 (preceding the fiscal year of the TSM Program). However, local agencies cannot be reimbursed for work performed until the State Budget is approved and are at risk of not being reimbursed for work performed prior to budget approval.

16.6 PROJECT ALLOCATION REQUESTS, FUNDS REQUESTS AND AGREEMENTS

The reimbursement process is typically initiated by a project allocation request submitted by the local agency to the Caltrans DLAE. Local agencies must follow the project allocation request outline found on page 15 of the “Financial Guidelines for Local Agency Reimbursement”.

The DLAE is responsible for reviewing the project allocation request for the following items:

- project description, scope and cost
- completed environmental document
- estimated award date
- estimated date of completion
- cash expenditure and reimbursement plan

The DLAE shall compare the project description (scope and cost) of the project allocation request with the original “Project Information Report”. If a scope or cost change has occurred, the DLAE shall have the local agency submit written justification with the project allocation request explaining why the change should be approved by the CTC. Upon satisfactory review by the DLAE, the project allocation request and any justification for cost or scope changes is forwarded to the OLP. Since projects are programmed based on competitive priorities, changes in scope and costs can affect a project’s priority. No changes in scope or cost are to be recommended to the CTC unless concurrence is achieved between the Transportation Planning Program, Traffic Operations Program and the OLP.

Following review of the allocation request by the OLP, a Funds Request with recommendations is prepared and forwarded to the Caltrans Headquarters Budgets Program. The Budget Program includes the request on the CTC agenda and prepares the book item. All local agency prepared project allocation requests should be received in the District approximately sixty days before the scheduled CTC meeting. Project allocation requests for all TSM projects must be received by the OLP by May 1 of the program year. The DLAE will notify the local agency when the CTC approves or disapproves the project funds request or if Caltrans Budgets Program disapproves the request prior to submittal to the CTC.

To minimize the number of project allocation requests prepared by a local agency, processed by Caltrans and acted upon by the CTC, allocation requests for TSM projects with right of way and construction costs of \$300,000 or less are not to be made until the project is ready for construction (ready to advertise). The request should include preliminary engineering, right of way and construction, as appropriate. For TSM projects with right of way and construction cost of \$300,000 or more it is requested that the project allocation request not be made until the project is ready for construction.

On May 3, 1995, the CTC adopted Resolution G-95-05 (replacing Resolution G-93-04) defining a "Policy for Allocation of Capital Support Funding for Local Grant Programs". This policy delegates to Caltrans the authority to reimburse local agencies for capital support work without CTC approval of the Funds Request. The intent of this resolution is to simplify the process and reduce the number of Funds Requests submitted to the CTC for TSM projects

The "Financial Guidelines for Local Agency Reimbursement" allow local agencies to request early project allocation requests. The CTC may approve a funding allocation up to three months before the fiscal year in which work is to be started. Capital outlay work (R/W acquisition, construction and construction engineering) shall not begin until an individual project fund request is approved by the CTC, or the local agency notifies the OLP and the CTC that it intends to start capital outlay work (award a construction contract) on a risk basis prior to a CTC funding allocation. The regional planning agencies should also be notified by the local agency if a TSM project is to be advanced.

The "Financial Guidelines for Local Agency Reimbursement" require that all TSM projects have agreements executed between Caltrans and the local agency. The OLP is responsible for preparing and providing the local agency with a "Master Agreement" which covers broad program requirements and a Program Supplemental Agreement which covers project specific requirements.

Following Caltrans or CTC approval of the funds request, the OLP will prepare and forward a project specific Program Supplement Agreement to the local agency for the appropriate phase(s) of work. State funds are available for reimbursement following execution of the agreement by the State and local agency and the local agency may begin submitting invoices.

The DLAE reviews the request and submits it to the OLP. The OLP reviews the request, prepares a funds request with recommendations and forwards it to the Budgets Program for CTC action. Following approval of the funds request by the CTC, the OLP sends a project specific Program Supplemental Agreement to the local agency. Upon execution of the agreement by the State and local agency, State funds are available for reimbursement and the local agency may begin submitting invoices.

16.7 BACKFILL PROJECTS

The “Financial Guidelines for Local Agency Reimbursement” require that Caltrans and local agencies receive project funding allocation during the fiscal year of the TSM program. If for any reason a local agency or Caltrans sponsored TSM projects have failed to achieve an allocation in the first 11 months of the program year, then additional projects below the priority cutoff line in the annual TSM Plan can be brought before the CTC as “Backfill Projects.” The OLP should be notified immediately by the DLAE of potential savings to project costs or delays which may constitute a balance of unused funds, so that these funds may be programmed for additional backfill projects.

The OLP will coordinate with Transportation Programming Program to determine if backfill projects should be considered by the CTC. The OLP will monitor all local agency project allocations and inform the DLAEs which local agency projects below the priority cutoff line are to be considered as backfill projects. The DLAE shall obtain a project allocation request for all backfill candidates and a confirmation in writing that the local agency can award the project within six months of the allocation, construct, and complete final billing for the project within two years. This information must be processed expeditiously through the OLP and Budgets Program so that fund requests can be prepared and included on the June CTC agenda.

16.8 AWARD INFORMATION

Award information is necessary to report on the status of TSM projects to the CTC. Proof of award shall be provided to the DLAE by the local agency, and forwarded to the OLP by December 30 following the end of the fiscal year in which a project allocation is made. All projects not awarded by December 30 shall be canceled unless an exception is granted by the CTC. Local agencies which do not anticipate award of their project by December 30 must explain in writing the reasons for the delay and when progress will commence. The deadline for the written explanation by the local agencies is also December 30 of each year. The OLP will forward the explanation, with a Department recommendation approved by the Deputy Director of Finance, to the CTC. The CTC will decide whether or not to withdraw funding.

16.9 REIMBURSEMENT DEADLINE

All projects in a annual TSM plan must receive all reimbursements for work completed, within two fiscal years following the fiscal year of allocation. Local agencies must consider the time frame that Caltrans will need to process the final billing before submitting it to Headquarters for final payment. The following is an example:

If a TSM project is allocated funds by the CTC in May 1995 (year of allocation = 94/95 State Fiscal Year (FY)), then Caltrans' Local Programs Accounting in Sacramento must have all invoices processed to the State Controllers Office by June 30, 1997. (1996/97 State FY = two years after year of allocation 1994/95). Local Programs Accounting usually requires two weeks to process final invoices. In this example, it must receive the final billing no later than June 15, 1997 in order to have the payment processed by June 30 to the State Controller's Office.

The DLAEs should stress to the local agencies the importance of a timely invoice submittal, so that every consideration can be given before any allocations for these projects are lost due to lapse of funding availability. Invoices received after June 15 will not be paid. A "Final Project Expenditure Report" for State-funded local assistance projects (see Chapter 17, "Project Completion" in the *Local Assistance Procedures Manual*). The "Final Project Expenditure Report" is due within one hundred twenty days from the completion of the project.

14.10 PROJECT COMPLETION

Project completion procedures are covered in the CTC's Financial Guidelines, in the attached Appendix, and in Chapter 17 "Project Completion" in the *Local Assistance Procedures Manual*.

CRITICAL DATES FOR ANNUAL TSM PROGRAM

	<u>DATE</u>	<u>REMARKS</u>
T S M P R O G R A M Y E A R	September 1	Project Information Report (PIR) Due to Caltrans and Regional Transportation Planning Agency
	3 months	
	December 1	Annual TSM Plan Approved by Caltrans Headquarters Budgets Program
	6 months	
	July 1 or soon thereafter	State Budget Approved (funds available for TSM Program)
	11 months	
	May 1	Fund Requests for Backfill Projects for (projects below priority cutoff) submitted for CTC Allocation
	1 month	
	June CTC Meeting	Last Opportunity for Individual and Backfill Project Allocations to be Approved by CTC
	6 months	
	December 31	Project Award Deadline for TSM Cycle
	18 months	
	June 30 (2 years After Allocation Deadline)	Deadline for Reimbursement of Funds is Two Years After Fiscal Year in which CTC Makes Allocation

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TRAFFIC SYSTEMS MANAGEMENT PROGRAM GUIDELINES

As Amended June 7, 1995

I. PURPOSE AND AUTHORITY

- A. Authority. These guidelines implement the Traffic Systems Management (TSM) Program in accordance with the basic program requirements established in Section 164.1 of the Streets and Highways Code, as added by Chapter 106 of the Statutes of 1989 (AB 471), and Section 182.4, as added by Chapter 1177 of the Statutes of 1992 (SB 1435). Section 164.1 requires that program guidelines be prepared by the Department of Transportation (Department) and be approved by the California Transportation Commission (CTC).
- B. Intent and Purpose. Section 164 of the Streets and Highways Code, as added by Chapter 105 of the Statutes of 1989 (SB 300), states the intent of the Legislature to establish a 10-year State transportation funding plan, including \$1.0 billion for traffic systems management. Although an estimate of the amounts that will be made available in each year may be included in the biennial fund estimates adopted by the CTC pursuant to Section 14525 of the Government Code, the amount available each year will be determined in the annual State budget process. The intent of the TSM program is to provide for effective traffic management systems in the major urbanized areas of the State within the level of funding provided by the Legislature.

Section 182.4 requires the Department, from the funds appropriated for TSM purposes, to first make available to each regional agency the amount necessary to match all Federal funds made available to it for the Congestion Mitigation and Air Quality Improvement Program (CMAQ) and for eligible TSM projects funded from the Regional Surface Transportation Program (RSTP).

Section 164.1 requires the Department, for the funds remaining after the CMAQ/RSTP local match is funded, to submit to the CTC an annual TSM plan which includes a priority list of capital projects submitted from local congestion management plans. In order to meet the intent of the TSM program, the selection of projects for funding from the TSM plan will be limited to projects that contribute to the effective management of a defined system of cooperatively managed and interconnecting traffic routes. The number and overall scope of TSM projects that will be identified in the local congestion management plans should far exceed what can be funded from the TSM plan.

The purpose of these guidelines is to promote the identification, selection, and development of those projects that have the greatest potential for meeting the intent for funding from the TSM plan.

These guidelines do not provide procedural guidance for the CMAQ/RSTP local match program. Although TSM eligibility is a factor in the CMAQ/RSTP local match program, the project selection and administrative procedures are separate and will be covered by procedures developed separately by the Department.

II. ELIGIBILITY

- A. Eligible Agencies. To be eligible for funding from the TSM plan, a project shall be proposed and implemented either by the Department or by a local public agency authorized under law to implement the project.
- B. Eligible Areas. To be eligible for funding from the TSM plan, a project shall serve to manage traffic in an urbanized area, as defined by the U. S. Bureau of the Census.
- C. Eligible System. To be eligible for funding from the TSM plan, a project shall serve to manage traffic on a system of streets and highways identified by the Department for the purpose of implementing the TSM program. The system includes all freeways, expressways, and other principal arterials, as defined in the Functional Classification System shown on Urban Functional Usage Maps approved by the Federal Highway Administration. These maps are maintained by the Department and may be obtained from the Department's district offices.

The Department may add other routes to the eligible system at any time in consultation with local transportation officials and in accordance with local congestion management programs. Each year, the Department will review the eligible system in accordance with the networks of streets and highways that are proposed for traffic management in the congestion management programs and will revise the eligible system as appropriate.

- D. Eligible Costs. All identifiable costs of or related to a capital project are eligible for funding from the TSM plan. These costs include, but are not limited to, costs incurred for the preparation of plans, specifications, and estimates, construction engineering, right-of-way engineering, construction, acquisition of land or right-of-way, and the acquisition and installation of equipment, including computer hardware and software.

For local agencies, all costs are eligible subject to the provisions of the Financial Guidelines for Local Agency Reimbursement adopted by the California Transportation Commission.

For the Department, all capital outlay costs are subject to allocation by the CTC. Capital outlay support costs for the Department are approved through the Legislative budget process and are not subject to allocation by the CTC.

- E. Eligible Project Types. Section 164.1 of the Streets and Highways Code defines TSM projects as "those projects designed to increase the number of person-trips which can be carried on the highway system in a peak period without significantly increasing the designed capacity of the highway system when measured by the number of vehicle trips and without increasing the number of through traffic lanes."

As specified in Section 182.4, TSM projects also include "high occupancy vehicles lanes and transportation control measures listed in Section 108(f)(1)(A), other than clauses (xii) and (xvi), of the 1990 Clean Air Act." These are the same transportation control measures referenced in the Federal Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). In order to qualify for the TSM program, transportation control measures must serve a public street and highway purpose or a public mass transit guideway purpose, as defined in Sections 1(a) and 1(b) of Article XIX of the California Constitution. Article XIX specifies and limits the purposes for which State fuel tax revenues may be used. Transportation control measures that do not qualify under Article XIX include, for example, transit vehicle purchases and transit operating expenses.

For the annual TSM plan, the determination of eligibility of particular projects will be made by the Department when it develops priorities or makes commitments for the annual plan. For the CMAQ/RSTP local match program, the determination will be made by the Department in accordance with the separate administrative procedures developed for that program.

Eligible project types include, but are not limited to, those in the following list.

1. Establishment of auxiliary lanes on freeways, by construction or restriping. Auxiliary lanes include lanes for acceleration from on-ramps and deceleration lanes to off-ramps and weaving lanes extending between adjacent interchanges.
2. Traffic flow improvements on conventional arterial roads, including widening at intersections for turn lanes; other channelization; traffic signal coordination systems, including central computer control equipment; and traffic regulation projects, including one-way street operations, reversible lanes, median closures, and parking restrictions.
3. Traffic metering systems, including meters on freeway on-ramps, freeway-to-freeway connectors, and freeway mainlines. Projects may include construction or restriping for meter bypass lanes for high occupancy vehicles and modifications to ramps and adjacent arterial roads for storage of vehicles waiting for ramp meter signals.
4. Traffic operations centers and related surveillance equipment, including traffic sensors and closed circuit television; related motorist information systems, including changeable message signs, highway advisory radio, computer bulletin boards, telephone call-in systems, and other media links; and related communications links, including links with other city or State traffic operations centers.
5. Improvements designed to improve traffic flow by accommodating transit vehicles on streets and highways, including bus turnouts and signal preemption systems for transit vehicles.
6. Demonstration projects to implement research and development in the field of traffic operations control systems.
7. Establishment of high occupancy vehicle lanes on freeways or surface streets, by construction or restriping.
8. Fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit facilities.

III. PROGRAM PROCEDURES

- A. TSM Plan. Section 164.1 of the Streets and Highways Code, requires the Department annually to submit to the CTC a TSM plan which includes a consolidated priority list of projects submitted from congestion management programs. The Department is required to submit this annual statewide plan by December 1.
- B. TSM Plan Contents. The Department's annual statewide TSM plan will include a priority list of projects for funding in the ensuing fiscal year. The list will include a dollar amount for each project, which shall represent the full amount of TSM funds proposed for allocation to the project in the ensuing fiscal year.

The priority list may include projects on local streets and roads only if the Congestion Management Agency (CMA) for the county agrees that they are consistent with the Congestion Management Program (CMP) developed in accordance with Chapter 2.6 (commencing with Section 65088) of Title 7 of the Government Code. In a county for which there is an approved CMP, the Department will not include a State highway project in the TSM plan unless the CMA agrees that it is consistent with the CMP or unless the Department has consulted with the CMAs and other local transportation officials and finds that the project is a necessary element of an effective intercounty system. The

finding will be included in the TSM plan.

- C. Multi-Year Programming Commitments. The Department will cooperate with regional agencies in the development of coordinated programming for Regional STP funds, CMAQ funds, State CMAQ/RSTP local match funds, and State TSM plan funds. To that end, the Department may make advance commitments of TSM plan priority to regional agencies for particular projects. These commitments shall be made consistent with the program criteria set forth in Chapter IV of these guidelines.

The geographic distribution of these advance commitments shall be consistent with the Department's measurements of the distribution of existing traffic congestion. Although these congestion measurements may be limited to the measurement of congestion on freeways, an advance commitment of TSM plan priority may be made to any project eligible for funding from the TSM plan.

The Department will honor each of its advance commitments of TSM plan priority in the development of the annual TSM plan, subject to the availability of funds and provided that the project has been sufficiently defined, remains eligible, and will be ready for delivery in the ensuing fiscal year.

- D. TSM Plan Priorities. The annual TSM plan shall list the projects in priority order on a statewide basis. The Department's determination of project priorities will be based on its advance commitments and on the criteria specified in these guidelines. Projects for which the Department has made a prior commitment to a regional agency will be given first priority; other projects will be evaluated and included in the list and may be funded to the extent that sufficient funds are available. The statewide TSM plan will be developed using the best information available to the Department. The Department will rely on information included in the CMPs and Federal TIPs, on independent studies made by its own staff, and on project information reports prepared by its own staff or provided to the Department by local agencies.

In preparing the annual TSM plan, the Department, in cooperation with the regional agencies, will give full consideration to the reports, programs, and other information that are submitted or otherwise made available to the Department by September 1 of the year preceding the fiscal year of the TSM plan. Although the annual funding of projects will generally be determined by the advance commitments made, individual project priorities are necessary to meet the requirements of statute to define which projects may be deferred or advanced in case of reduced or augmented TSM funding for the ensuing fiscal year.

- E. TSM Project Information Reports. An agency proposing to implement a project with funding through the TSM plan should submit a TSM project information report to define the project scope, cost and schedule and to assist the Department in developing the TSM plan. These project information reports should be submitted to the District Director of Transportation and the regional agency for the area in which the project is located. The Department will give full consideration in its evaluation to the project information reports that are submitted by September 1 of the year preceding the fiscal year of the TSM plan. After this date, a copy of each project information report received will be made available by the Department for inspection by interested parties. Each project information report should include all of the information described in Appendix A to these guidelines.
- F. Program Exempt from County Minimums. Section 167 of the Streets and Highways Code, as amended by Chapter 105 of the Statutes of 1989 (SB 300), specifies traffic systems management as one of the program elements to be listed in the budget each year. Section 182.5, as added by SB 300, specifies that funds allocated from funds appropriated for the TSM program are not subject to the north-south split or to the county minimums that are applicable to most funds allocated from the State Highway Account.

- G. Financial Guidelines. The transfer and expenditure of funds allocated to local agencies for TSM projects shall be subject to the financial guidelines for the Flexible Congestion Relief program and the Traffic Systems Management program adopted in accordance with Section 164.4 of the Streets and Highways.

IV. PROJECT EVALUATION CRITERIA

The Department, in cooperation with the regional agencies, shall use the following criteria in setting project priorities for the TSM plan and in making advance commitments of TSM plan priority. The criteria are listed in order of general importance. The Department's evaluation of project priorities may give due consideration to the accuracy, reliability, and completeness of the information made available in the CMPs and project information reports.

- A. Whether the project contributes to the implementation of an effective traffic management system.
- B. The effectiveness of the project in reducing travel time on the streets and highways system during peak hours. This effectiveness shall be measured in terms of the value of time saved per dollar expended (standard time values are provided in the attachment to Appendix A). The dollars expended shall include increases in annual operating and maintenance costs as well as the annualized capital costs of construction or acquisition.
- C. The effectiveness of the project in increasing the number of person-trips that can be carried on the streets and highways system during peak hours. This effectiveness shall be measured in terms of the number of person-trips per dollar expended.
- D. The rapidity with which the project is expected to relieve traffic congestion.
- E. Whether the city or county in which the project is located has an approved CMP, is conforming to the CMP, and is fully cooperating with the implementation of TSM projects.
- F. The degree to which the project contributes to the implementation of the area's CMP. This shall include consideration of its contribution to meeting the traffic level of service and transit performance standards established in the CMP, its contribution to mitigating regional transportation impacts of local land use decisions identified in the CMP, and its implementation of measures to reduce transportation-related air pollution emissions as included in the region's air quality plan.
- G. The usefulness of the project in demonstrating the potential value of new methods or technology for traffic systems management.
- H. The financial participation by a local agency in TSM projects in the area.

APPENDIX A

TSM PROJECT INFORMATION REPORT¹**Name Of Implementing Agency**

District/County/Route or Street/ Kilometer Post (Postmile)

Project Fiscal Year

Vicinity Map
(or Street Map)
Show:
Project Limits
Adjacent Facilities
North Arrow

Type of Project _____
On Route (or Street) _____
Between _____
And _____
In (City or County) _____

PREPARED BY: _____ Date _____
Title: _____

APPROVED BY: _____ Date _____
Project Manager

¹ Six (6) copies of the report should be submitted to the District Director by September 1 of the year preceding the fiscal year of the TSM plan. See the Regional Agency for number of copies required.

SECTION 1. IDENTIFICATION OF THE PROJECT AND AGENCY

- A. Project Title.
- B. Name and address of the agency responsible for the project.
- C. Names and addresses of other participating agencies.
- D. Name, title, telephone number, and FAX number of the person responsible for the contents of this project information report.
- E. Name, title, address, telephone number, and FAX number of the project manager.

SECTION 2. PROJECT DESCRIPTION

- A. Describe in detail the work that would be funded under the proposed project. Describe specifically the land, equipment or facilities to be constructed or acquired as part of the project.
- B. Is the project single phased or part of a multi-phased project?
- C. Enclose an 216 mm x 279 mm (8 1/2 inch x 11 inch) project location map showing existing roadway features and proposed work (i.e. spacing between intersections, geometric details, equipment location, etc.)

SECTION 3. PROJECT STATUS AND SCHEDULE

- A. Is the project consistent with a Congestion Management Program?
- B. Describe any environmental mitigation measures and/or unresolved environmental issues.
- C. Include a schedule for implementation including, **but not limited to the following:**
 - 1. Environmental Compliance
 - 2. Agreement Signed¹
 - 3. Encroachment Permit
 - 4. Consultant Contract
 - 5. Plans, Specifications & Estimate
 - 6. Allocation Request
 - 7. Right of Way Acquisition
 - 8. Advertise Contract
 - 9. Contract Awarded
 - 10. Begin Construction
 - 11. End Construction
 - 12. Final Expenditure Report
 - 13. Final Audit
 - 14. Other Key Milestones

¹ If a project involves more than one jurisdiction, a letter of agreement between all parties is required.

SECTION 4. PROJECT NEED AND BENEFITS**A. Project Need.**

1. Describe in detail the congestion problem that this project will mitigate.
2. Describe the traffic conditions on the roadways affected by the project including adjacent streets and highways. Include the current and proposed average daily traffic, peak hour volumes, operating speeds and delay.

B. Project Benefits

1. Time Savings: Estimate the annual delay reduction (in dollars) resulting from the project. Include all calculations and assumptions used in making this calculation. Where appropriate, use the formula and time values in Attachment 1.
2. Person-Trip Capacity: Estimate the increase in the number of person-trips that could be carried on the street and/or highway system as a result of the project. Include all calculations and assumptions used to derive the estimate.
3. Level Of Service: Describe the current and expected level of service as a result of the project. Describe the basis for the above projection.
4. Congestion Management Program: Describe the relationship of the proposed project to other projects in the area, and its importance in implementing the area's Congestion Management Program.

SECTION 5. CAPITAL COSTS

Estimate the total capital cost of the project. The costs shall include all labor, materials, tools, equipment and incidentals necessary to complete the project. Provide a detailed breakdown of the capital costs including, **but not limited to the following:**

A. Equipment Costs

- | | |
|--------------------------------|-------------------------------------|
| 1. Motorist Information System | 2. Closed Circuit Television System |
| Changeable Message Signs | Central Control & Switching |
| Trailblazer Sign | Cameras/Monitors |
| Highway Advisory Radio | |
| Master Controller | |

Traffic Systems Management Program Guidelines

- | | |
|---|--|
| 3. Communication System
Trunk Cable
Underground Conduit
Communication Hardware
Intertie with Traffic Operations Center | 4. Software ¹
Expert System
Operating System |
| 5. Traffic Operations Center
Map Display
Media Communication Equipment
Mainline Computer
Changeable Message Sign Display
Computer Workstations | 6. Ramp Metering Systems
Detector Loops
Signal Equipment
Controller |
| 7. Traffic Signal Systems
Interconnect Cable
Controllers
Cabinets
Detector Loops
Pullboxes
Conduits
Emergency Vehicle Detection | |

B. Right Of Way Costs

1. Acquisition (including excess lands and damages to remainder)
2. Utility Relocation
3. Clearance/Demolition
4. Relocation Assistance
5. Title and Escrow Fees
6. Construction Contract Work

C. Roadway Costs²

- | | |
|---|---|
| 1. Earthwork Items
Excavation/Backfill
Grading
Clearing & Grubbing | 2. Structural Section Items
Pavement
Base/Subbase |
| 3. Drainage Items
Culverts
Catch Basins/Drop Inlets | 4. Structures
Bridge Modifications
Building Modifications |
| 5. Traffic Control Items
Lane Closures
Detours | 6. Miscellaneous Items
Retaining Walls
Barriers/Guardrails
Curbs/Gutters |

D. Other costs not specifically mentioned in A though C.

¹ Commercially Available - Software development costs are not to be included in this item.

² Example of roadway work: widening for High Occupancy Vehicle bypass lanes, California Highway Patrol enforcement pads, turning lanes, intersection channelization, mainline High Occupancy Vehicle lanes, auxiliary lanes, and park and ride facilities, etc.

E. Contingencies - Maximum 25% of total estimated capital cost.

SECTION 6. CAPITAL SUPPORT COSTS¹

Provide a detailed explanation and estimate for capital support costs. Capital support costs may be provided by the applicant or a consultant. Capital support costs include the following:

A. Project Development

1. Environmental Study
2. Design Engineering (Plans, Specifications, and Estimate)
3. Software Development (Note: software must be directly related to system operation)

B. Construction Engineering

1. Contract Administration
2. Inspection

C. Signal Timing Plan Development

1. Optimization
2. Simulation
3. Implementation

¹ Maximum support cost allowed is 35% of the total estimated capital cost. See Financial Guidelines for details and requirements for reimbursement of costs.

ATTACHMENT 1
TYPICAL TIME SAVINGS CALCULATION

Calculate the time savings index (TSI) as follows:

$$TSI = \frac{PWF \times [(C \times B \times D) \pm M \pm O] \times 100}{COST}$$

where,

PWF = Present Worth Factor

For "PWF" use the following:

<u>Project Life (years)</u>	<u>Project Type</u>	<u>PWF</u>
5.....	computer hardware/software.....	4.3
10.....	signing, striping.....	7.8
15.....	<i>Operational</i>	10.5
	<i>Improvements</i>	
20.....	information, communication, ramp metering	
	<i>Geometric</i>	12.6
	<i>Improvements</i>	
	turning/auxiliary lanes, ramp widening,	
	bus turnouts, high occupancy vehicle	
	lanes/bypass, park and ride facilities	

C = Cost per vehicle-minute

For "C" use the following:

<u>Percent Trucks</u>	<u>C - Cost per Vehicle-Minute</u>
0-2	\$0.12
3-7	\$0.13
8-12	\$0.14
13-17	\$0.15
18-22	\$0.16
23-27	\$0.17
28-32	\$0.18

B = Daily delay savings in vehicle-minutes (i.e. delay reduction resulting from the project).

D = # days per year the problem exists

For "D" use the following:

Weekend Traffic	D = 115
Recurrent Weekday Traffic	D = 250
Daily Traffic	D = 365

M = Annual maintenance cost in dollars (subtract cost increases or add cost decreases in TSI calculation).

O = Annual operating cost in dollars (subtract cost increases or add cost decreases in TSI calculation).

COST = Capital cost (i.e. R/W and construction)